

Topic: Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{3} \cdot \sqrt{2}$$

Answer choices:

A $\sqrt{5}$

B $\sqrt{6}$

C $\sqrt{10}$

D $\sqrt{1}$



Solution: B

We need to use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

Applying this to our problem, we can rewrite it.

$$\sqrt{3} \cdot \sqrt{2}$$

$$\sqrt{3 \cdot 2}$$

$$\sqrt{6}$$



Topic: Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{2} \cdot \sqrt{8}$$

Answer choices:

A $\sqrt{4}$

B 2

C 4

D 16



Solution: C

We need to use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

Applying this to our problem, we can rewrite it.

$$\sqrt{2} \cdot \sqrt{8}$$

$$\sqrt{2 \cdot 8}$$

$$\sqrt{16}$$

$$4$$



Topic: Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{25} \cdot \sqrt{2}$$

Answer choices:

- A $\sqrt{5}$
- B $5\sqrt{2}$
- C 100
- D 50



Solution: B

Normally we would use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

and we'd get

$$\sqrt{25} \cdot \sqrt{2}$$

$$\sqrt{25 \cdot 2}$$

$$\sqrt{50}$$

but then we'd need to work on simplifying $\sqrt{50}$. It would be easier to realize that 25 is the perfect square of 5, and simplify the original problem to

$$\sqrt{25} \cdot \sqrt{2}$$

$$5 \cdot \sqrt{2}$$

$$5\sqrt{2}$$

